

IN THE SPECIFICATION

Please amend the Specification as follows:

Please amend page 1 paragraph 2 as follows (add "BACKGROUND" heading to the paragraph):

BACKGROUND

Multi-line addressing techniques for liquid crystal displays (LCDs) have been described, for example in US2004/150608, US2002/158832 and US2002/083655, for reducing power consumption and increasing the relatively slow response rate of LCDs. However these techniques are not suitable for OLED displays because of differences stemming from the fundamental difference between OLEDs and LCDs that the former is an emissive technology whereas the latter is a form of modulator. Furthermore, an OLED provides a substantially linear response with applied current and whereas an LCD cell has a non-linear response which varies according to the RMS (root-mean-square) value of the applied voltage.

Please amend page 6 carryover paragraph to page 7 as follows (add "OVERVIEW" heading):

OVERVIEW

There is a continuing need for techniques which can improve the lifetime of an OLED display. There is a particular need for techniques which are applicable to passive matrix displays since these are very much cheaper to fabricate than active matrix displays. Reducing the drive level (and hence brightness) of an OLED can significantly enhance the lifetime of the device – for example halving the drive/brightness of the OLED can increase its lifetime by approximately a factor of four. The inventors have recognised that multi-line addressing techniques can be employed to reduce peak display drive levels, in particular in passive matrix OLED displays, and hence increase display lifetime.

Please amend page 15 first full paragraph as follows (add "BRIEF DESCRIPTION OF THE DRAWINGS" heading):

BRIEF DESCRIPTION OF THE DRAWINGS

These and other aspects of the of the invention will now be further described, by way of example only, with the reference to the accompanying figures in which:

Please amend page 16 sixth paragraph as follows (add "DETAILED DESCRIPTION" heading):

DETAILED DESCRIPTION

Consider a pair of rows of a passive matrix OLED display comprising a first row A, and a second row B. In a conventional passive matrix drive scheme the rows would be driven as shown in table 1 below, with each row in either a fully-on state (1.0) or a fully-off state (0.0).

Please amend page 38 last paragraph as follows:

No doubt many other effective alternatives will occur to the skilled person. It will be understood that the invention is not limited to the described embodiments and encompasses modifications apparent to those skilled in the art lying within the spirit and scope of the claims appended hereto.

What is claimed is:

Please amend the Abstract as follows:

Multi Line Addressing Methods and Apparatus

~~This invention relates to methods and apparatus for driving electro-optic, in particular organic light emitting diodes (OLED) displays using multi-line addressing (MLA) techniques. Embodiments of the invention are particularly suitable for use with so-called passive matrix OLED displays.~~

A method of driving an electro-optic display, the display having a plurality of pixels each addressable by a row electrode and a column electrode, the method comprising: receiving image

data for display, ~~said the~~ image data defining an image matrix; factorising ~~said the~~ image matrix into a product of at least first and second factor matrices, ~~said the~~ first factor matrix defining row drive signals for ~~said the~~ display, ~~said the~~ second factor matrix defining column drive signals for ~~said the~~ display; and driving ~~said the~~ display row and column electrodes using ~~said the~~ row and column drive signals respectively defined by ~~said the~~ first and second factor matrices.

Please amend page 23 carryover paragraph as follows (the hyperlink is removed):

D. D. Lee, H. S. Seung. Algorithms for non-negative matrix factorization ; P. Paatero, U. Tapper. Least squares formulation of robust non-negative factor analysis. Chemometr. Intell. Lab. 37 (1997), 23-35; P. Paatero. A weighted non-negative least squares algorithm for three-way 'PARAFAC' factor analysis. Chemometr. Intell. Lab. 38 (1997), 223-242; P. Paatero, P. K. Hopke, etc. Understanding and controlling rotations in factor analytic models. Chemometr. Intell. Lab. 60 (2002), 253-264; J. W. Demmel. Applied numerical linear algebra. Society for Industrial and Applied Mathematics, Philadelphia. 1997; S. Juntto, P. Paatero. Analysis of daily precipitation data by positive matrix factorization. Environmetrics, 5 (1994), 127-144; P. Paatero, U. Tapper. Positive matrix factorization: a non-negative factor model with optimal utilization of error estimates of data values. Environmetrics, 5 (1994), 111-126; C. L. Lawson, R. J. Hanson. Solving least squares problems. Prentice-Hall, Englewood Cliffs, NJ, 1974; Algorithms for Non-negative Matrix Factorization, Daniel D. Lee, H. Sebastian Seung, pages 556-562, Advances in Neural Information Processing Systems 13, Papers from Neural Information Processing Systems (NIPS) 2000, Denver, CO, USA. MIT Press 2001; and Existing and New Algorithms for Non-negative Matrix Factorization By Wenguo Liu & Jianliang Yi (~~www.dcfi.gov/DCCI/rdwg/nmf.pdf~~ www.dcfi.gov/DCCI/rdwg/nmf.pdf); source code for the algorithms discussed therein can be found at http://www.cs.utexas.edu/users/liuwg/383CProject/CS_383C_Project.htm).

Please amend page 14 carryover paragraph to page 15 as follows:

The invention further provides processor control code, and a carrier medium carrying the code to implement the above described methods and display drivers. This code may comprise conventional program code, for example for a digital signal processor (DSP), or microcode, or

code for setting up or controlling an ASIC or FPGA, or code for a hardware description language such as Verilog (trademark); such code may be distributed between a plurality of coupled components. The carrier medium may comprise any conventional storage medium such as a disk or programmed memory such as firmware, or a data carrier such as an optical or electrical signal ~~carrier~~ medium.